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SUBJECT: U.S.-FRENCH GLOBAL NUCLEAR ENERGY PARTNERSHIP
DISCUSSIONS

Sensitive but Unclassified. Protect Accordingly.

11. (U) Summary: U.S. and French delegations met to discuss the U.S. proposal for a Global Nuclear Energy Partnership (GNEP). Both sides made presentations on their R&D agendas on closing the fuel cycle. The French side expressed strong support for the direction of the U.S. GNEP proposal, and a number of areas for future technical cooperation were identified. End Summary.

12. (U) On February 9-10, 2006 in Paris, a U.S. Delegation lead by Victor Reis, Senior Advisor to Secretary of Energy, met with a delegation from the CEA lead by Jacques Bouchard, Special Advisor to the Chairman and CEO of the CEA, to discuss the U.S. proposal to form a Global Nuclear Energy Partnership. Other members of the U.S. delegation include; John Herczeg (DOE), Alex Burkart (DoS), James J. Laidler (Argonne National Laboratory), Phillip J. Finck (Argonne National Laboratory, David Hill, (Idaho National Laboratory), Rick Stevens (Argonne National Laboratory) Alan Brownstein (DOE). The French delegation included Philippe Pradel, Jean-Louis Carbonnier, Frank Carr, Philippe Brossard, Bernard Boullis, Philippe Martin, Didier Kechemair, Patrick Ledermann and Bernard Boullis, all of CEA.

13. (SBU) On February 9th, following opening remarks by both sides, the CEA presented an overview of the specific areas of its nuclear energy R&D program, including the French R&D Strategy for Future Nuclear Energy Systems, which was approved by the French government in March 2005. Discussion focused on the development of fast reactors with a closed fuel cycle along two tracks: the Sodium Fast Reactor (SFR) and the Gas Fast Reactor (GFR), including new processes for spent fuel reprocessing and recycle, with industrial deployment around 2040. The CEA indicated that the SFR was the primary path forward, with the GFR the backup technology. The first planned gas-cooled test reactor (designed ETDR) will have a power of 50 megawatts thermal, with a decision on feasibility by 2012 and operation by 2017. If performance of the ETDR is successful, a larger GFR prototype will be constructed by 2025. Based on past experience with sodium-cooled reactors, the CEA plans to move forward toward a prototype SFR by 2020, as stated in the R&D Strategy. Objectives of the SFR development are reduced investment cost, a move towards passive safety and the integral recycle of actinides from light water reactors. The fuels research for the SFR is focused on "oxide" fuel for actinide recycle, and research on GFR fuels is focused on ceramics/oxides. Discussions also included strategies for spent fuel management, which include a next generation of reprocessing facilities around 2020 producing a mixed-oxide (Pu/U) product for recycle in light water reactors, leading to new technologies for recycle in fast reactors in 2040. Actinide recycling R&D using advanced separations technologies has been underway at CEA's ATALANTE facility since 2003. Research has focused on extraction of actinides from fission products, and a group separation process referred to as GANEX process. The CEA also provided an overview of its fuel transmutation program, which consisted of a three phased program starting with irradiations of a few minor actinides lead to a full demonstration of the full group of minor actinides in Japan's MONJU reactor in 2020. The U.S. delegation provided an overview of the GNEP, including details on the planned Engineering Scale Demonstration of UREX+, the Advanced Fuel Cycle Facility (a research laboratory), the Advanced Burner Test Reactor and Advanced Computer Simulation modeling for the complete fuel cycle.

14. (SBU) On February 10, 2006, the DOE/CEA meeting discussed small reactors and the path forward to joint collaboration. The CEA made a proposal on organization of the GNEP program, which built on principles of the Generation IV International Forum, but with the development of sensitive technologies limited to a smaller group of fuel cycle nations. The CEA took the action to develop a non-paper on its views on how R&D relationships and agreement might be structured. The U.S. head of delegation

agreed to consider the formation of a senior strategy group with appropriate member nations whose purpose would be to harmonize individual nuclear energy strategies with respect to GNEP, including the use of facilities. One important issue will be how to deal with controls on the transfer of sensitive technologies. The U.S. side agreed to prepare a non-paper on how to involve other countries outside the fuel cycle nations in the development of small reactors. Both side agreed to identify existing bi-lateral projects. U.S. points of contact were established for planning collaborative R&D, in the areas of separations, fuels, advanced burner reactor design, and computer modeling in several areas including basic science.

15. (U) Subsequent to the meeting, Reis met with Bernard Bigot, the High Commissioner Atomic Energy. Commissioner Bigot emphasized the importance that the French place on this initiative.

16. (U) Delegation prepared this cable prior to departure. Copies of the French presentations are available from delegation members.

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